

Federal Communications Commission

§ 95.635

(4) AMTS stations may use the 216.750–217.000 MHz band as a single 250 kHz channel so long as the signal is attenuated as specified in § 95.635(c).

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996]

§ 95.635 Unwanted radiation.

(a) In addition to the procedures in part 2, the following requirements

Transmitter	Emission type	Applicable paragraphs
GMRS	A1D, A3E, F1D, G1D, F3E, G3E with filtering	(1), (3), (7)
	A1D, A3E, F1D, G1D, F3E, G3E without filtering	(5), (6), (7)
FRS	H1D, J1D, R1D, H3E, J3E, R3E	(2), (4), (7)
	F3E with filtering	(1), (3), (7)
	Note: Filtering refers to the requirement in § 95.635(b) R/C:	
27 MHz band	As specified in § 95.629(b)	(1), (3), (7)
72–76 MHz band	As specified in § 95.629(b)	(1), (3), (7), (10), (11), (12)
CB	A1D, A3E	(1), (3), (8), (9)
	H1D, J1D, R1D, H3E, J3E, R3E	(2), (4), (8), (9)
	A1D, A3E authorized before September 10, 1976	(1), (3), (7)
	H1D, J1D, R1D, H3E, J3E, R3E authorized before September 10, 1986.	(2), (4), (7)

(c) For transmitters designed to operate in the LPRS, emissions shall be attenuated in accordance with the following:

(1) Emissions for LPRS transmitters operating on standard band channels (25 kHz) shall be attenuated below the unmodulated carrier in accordance with the following:

(i) Emissions 12.5 kHz to 22.5 kHz away from the channel center frequency: at least 30 dB; and

(ii) Emissions more than 22.5 kHz away from the channel center frequency: at least $43 + 10\log(\text{carrier power in watts})$ dB.

(2) Emissions for LPRS transmitters operating on extra band channels (50 kHz) shall be attenuated below the unmodulated carrier in accordance with the following:

(i) Emissions 25 kHz to 35 kHz from the channel center frequency: at least 30 dB; and

(ii) Emissions more than 35 kHz away from the channel center frequency: at least $43 + 10\log(\text{carrier power in watts})$ dB.

apply to each transmitter both with and without the connection of all attachments acceptable for use with the transmitter, such as an external speaker, microphone, power cord, antenna, etc.

(b) The power of each unwanted emission shall be less than TP as specified in the applicable paragraph:

(3) Emissions for LPRS transmitters operating on narrowband channels (5 kHz) shall be attenuated below the power (P) of the highest emission, measured in peak values, contained within the authorized bandwidth (4 kHz) in accordance with the following:

(i) On any frequency within the authorized bandwidth: Zero dB;

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 2 kHz up to and including 3.75 kHz: The lesser of $30 + 20(f_d - 2)$ dB, or $55 + 10 \log(P)$, or 65 dB; and

(iii) On any frequency beyond 3.75 kHz removed from the center of the authorized bandwidth: At least $55 + 10 \log(P)$ dB.

(4) Emissions from AMTS transmitters using a single 250 kHz channel shall be attenuated below the unmodulated carrier in accordance with the following:

(i) Emissions from 125 kHz to 135 kHz away from the channel center frequency: at least 30 dB; and

(ii) Emissions more than 135 kHz away from the channel center frequency; at least $43 + 10\log(\text{carrier power in watts})$ dB.

[53 FR 36789, Sept. 22, 1988, as amended at 56 FR 15837, Apr. 18, 1991. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996; 63 FR 36610, July 7, 1998]

EFFECTIVE DATE NOTE: At 63 FR 36610, July 7, 1998, §95.635, the table in paragraph (b) was amended by removing the term “type accepted” each place it appears and adding in its place “authorized”, effective Oct. 5, 1998.

§95.637 Modulation standards.

(a) A GMRS transmitter that transmits emission types F1D, G1D, or G3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A GMRS transmitter that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A FRS unit that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 2.5 kHz, and the audio frequency response must not exceed 3.125 kHz.

(b) Each GMRS transmitter, except a mobile station transmitter with a power output of 2.5 W or less, must automatically prevent a greater than normal audio level from causing overmodulation. The transmitter also must include audio frequency low pass filtering, unless it complies with the applicable paragraphs of §95.631 (without filtering.) The filter must be between the modulation limiter and the modulated stage of the transmitter. At any frequency (f in kHz) between 3 and 20 kHz, the filter must have an attenuation of at least $60 \log_{10} (f/3)$ dB greater than the attenuation at 1 kHz. Above 20 kHz, it must have an attenuation of at least 50 dB greater than the attenuation at 1 kHz.

(c) When emission type A3E is transmitted, the modulation must be greater than 85% but must not exceed 100%. Simultaneous amplitude modulation and frequency or phase modulation of a transmitter are not permitted.

(d) When emission type A3E is transmitted by a CB transmitter having a TP of greater than 2.5 W, the CB trans-

mitter must automatically prevent the modulation from exceeding 100%.

(e) Each CB transmitter that transmits emission type H3E, J3E or R3E must be capable of transmitting the upper sideband. The capability of also transmitting the lower sideband is permitted.

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

§95.639 Maximum transmitter power.

(a) No GMRS transmitter, under any condition of modulation, shall exceed:

(1) 50 W *Carrier power* (average TP during one unmodulated RF cycle) when transmitting emission type A1D, F1D, G1D, A3E, F3E or G3E.

(2) 50 W peak envelope TP when transmitting emission type H1D, J1D, R1D, H3E, J3E or R3E.

(b) No R/C transmitter, under any condition of modulation, shall exceed a carrier power or peak envelope TP (single-sideband only) of:

(1) 4 W in the 26–27 MHz frequency band, except on channel frequency 27.255 MHz;

(2) 25 W on channel frequency 27.255 MHz;

(3) 0.75 W in the 72–76 MHz frequency band.

(c) No CB transmitter, under any condition of modulation, shall exceed:

(1) 4 W Carrier power when transmitting emission type A1D or A3E;

(2) 12 W peak envelope TP when transmitting emission type H1D, J1D, R1D, H3E, J3E or R3E. Each CB transmitter which transmits emission type H3E, J3E or R3E must automatically prevent the TP from exceeding 12 W peak envelope TP or the manufacturer's rated peak envelope TP, whichever is less.

(d) No FRS unit, under any condition of modulation, shall exceed 0.500 W effective radiated power (ERP).

(e) The maximum transmitter output power authorized for LPRS stations is 100 mW.

[53 FR 36789, Sept. 22, 1988; 53 FR 44144, Nov. 1, 1988. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46569, Sept. 4, 1996]